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Worldwide Locations

DOE Awards $8.6M to Increase Use, Availability of Alternative Fuels

November 1, 2006 // *Published as a news service by* IHS

Combined with funding from the participants, more than $25M will be invested in U.S. alternative fuel infrastructure.

The grants are part of the Clean Cities program and were selected under three topic areas:

- Refueling Infrastructure for E85 and Alternative Fuels.
- Incremental Cost for Alternative Fuel Vehicles.
- Idle Reduction Training and Awareness for School Districts.

"This public-private partnership helps bring diversity of supply to our transportation fuel market," DOE Secretary Samuel W. Bodman said.

"We need to integrate a diversity of supplies and a diversity of suppliers in order to reduce our reliance on any one particular type of fuel, or particular supplier. By building our energy infrastructure we create an environment in which American consumers have more choices in the transportation fuel they use."

The Refueling Infrastructure topic area considered projects that include new dispensing facilities or additional equipment or upgrades and improvements to existing refueling sites for alternative fuel vehicles (AFV).

The 13 projects selected under this topic include the installation of alternative fuel blending and refueling infrastructure at over 180 locations in 25 states and the District of Columbia. This includes the installation of infrastructure to dispense E85 at both converted and new stations.

Additional projects involve the installation of biodiesel blending capabilities at existing petroleum facilities for improving the availability and distribution of low-level biodiesel blends. Two projects are focused on infrastructure for compressed natural gas (CNG) and liquefied natural gas (LNG). Successful implementation of the planned infrastructure projects is expected to result in reducing the consumption of petroleum-based fuels by up to 30 million gallons per year.

The Incremental Cost for Alternative Fuel Vehicles topic area provides support for projects for the incremental cost of placing new or converted highway-certified vehicles in service. A single project for propane-powered vehicles was selected under this topic area that is expected to result in the reduction of diesel fuel by over 100,000 gallons per year.

The Idle Reduction Training and Awareness for School Districts topic area considered the development and implementation of comprehensive school bus driver, student, faculty and parent education and awareness programs to eliminate or reduce idling in school districts. Two projects were selected under this topic.

A complete list of the projects selected for negotiation is provided below:

- WestStart-CALSTART in Pasadena, Calif. will install 15 publicly accessible E85 refueling stations along interstate highways in the Los Angeles, Santa Barbara and San Joaquin Valley areas. Additionally, five of these locations will potentially have biodiesel fueling capability. Team members include CleanFuel USA, United Oil, Pacific Ethanol, State of California and General Motors. Clean Cities partners include Southern California, San Joaquin Valley and Central Coast. DOE share: $495,000. Proposed total project cost: $2,371,363.

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$3,539,101 / 6 Terminals = $589,850.00

- National Biodiesel Board in Jefferson City, Mo. will install six biodiesel blending terminals at existing petroleum facilities in five states including Arizona, Florida, Indiana, New York and Pennsylvania. The primary approach of the project is to market biodiesel in relatively low blending ratios with conventional diesel. Team members include Sustainable Energy Strategies, HWRT Oil Company, Independence Biofuels Inc., Sprague Energy, TransMontaigne and West Central. Clean Cities partners include Greater Long Island, Greater Philadelphia, Tucson and Florida Gold Coast. DOE share: $494,998. Proposed total project cost: $3,539,101.

$3,165,206 / 4 Terminals = $791,340

- World Energy Alternatives LLC in Chelsea, Mass. will expand the availability of biodiesel by installing rack-injection, in-line blending capabilities at four diesel terminals including Tacoma, Wash., Champaign, Ill., Robinson, Ill., and Toledo, Ohio. The proposed in-line blending is expected to significantly improve quality control of the final product. Team Members include Marathon Petroleum Co, Sound Refining Inc and the City of Toledo. Clean Cities partners are Puget Sound and Central Ohio. DOE share: $707,700. Proposed total project cost: $3,165,360.

- Commonwealth of Virginia in Richmond, Va. will install up to 12 publicly accessible E85 fuel dispensing stations along the I-95, I-64 Crescent Corridor that passes through Virginia, Maryland and the District of Columbia. This project will make E85 available to an estimated 15,000 public and private flex fuel vehicles. Team members include the State of Maryland, the DC Energy Office, the General Services Administration and General Motors. Clean Cities partners include Virginia Hampton Roads, Maryland and Metro Washington. DOE share: $284,000. Proposed total project cost: $767,000.

- New York State Energy Research and Development Authority in Albany, N.Y. will install up to 30 publicly accessible E85 refueling stations across the state of New York and will leverage New York State Thruway Authority activities in developing E85 along state thruways. Team members include the N.Y. Department of Transportation, N.Y. Department of Motor Vehicles, N.Y. Thruway Authority and N.Y. Dept of Agriculture and Markets. Clean Cities partners include Western New York, Genesee Region, New York City, Greater Long Island and Capital District. DOE share: $500,000. Proposed total project cost: $1,170,000.

- Prometheus Energy Company in Seattle, Wash. will install a liquefied natural gas (LNG) refueling station at the Kiefer Landfill, located in Sacramento, Calif. The station will serve the County of Sacramento garbage truck fleet that currently runs on LNG and other LNG-capable waste hauling fleets that use the landfill. Team members include NorthStar Inc. and the City of Sacramento. DOE share: $600,000. Proposed total project cost: $1,200,000.

$1,047,000 / 5 = $209,400 E85 and Biodiesel

- The Triangle J Council of Governments in Research Triangle Park, N.C. will install E85 refueling infrastructure at 21 stations and B20 infrastructure at 14 stations along heavily traveled interstates in North Carolina, South Carolina, Georgia and Tennessee. Team members include United Energy, Osage and Georgia Power. Clean Cities partners include Triangle, Palmetto State, East Tennessee, Middle Georgia and Centralina. DOE share: $586,000. Proposed total project cost: $1,353,080.

- State of Colorado in Denver, Colo. will install publicly accessible E85 and biodiesel refueling stations at five locations throughout Colorado. Work will also include educating car dealers and the general public about the benefits of alternative fuels. Team members include Great Western Ethanol, General Motors and numerous state and county agencies. Clean Cities partners include Colorado Springs, Northern Colorado and Denver Metro. DOE share: $350,000. Proposed total project cost: $1,047,000.

- State of Indiana in Indianapolis, Ind. will establish a network of E85 and biodiesel refueling stations spanning from Lake Michigan to the Gulf of Mexico. The project will coordinate the placement of 31 public access alternative fuel refueling stations along 886 miles of the I-65 corridor from Gary, Ind. to Mobile, Ala. including 19 stations in Indiana, three in Kentucky, three in Tennessee and six in Alabama. Team members include the Indiana Soybean Board, the Indiana Department of Transportation, the Kentucky Energy Office, the Tennessee Energy Office and various retailer outlets. Clean Cities partners include Central Indiana, South Shore, Middle Tennessee, Central Alabama and Kentucky. DOE share: $1,332,288. Proposed total project cost: $2,874,689.

E85 $1,487,325 / 15+a rack = $99,155

- Salt Lake City Clean Cities Utah Clean Cities Coalition in Salt Lake City, Utah will expand the compressed natural gas (CNG) public refueling structure with two additional stations and assist three CNG customers in adding refueling facilities for expanded fleet usage. The two public CNG facilities will be along I-15. Team members include Questar Gas Co, Qwest Communications, Diamond Parking and Durrent's Bakery. DOE share: $370,000. Proposed total project cost: $1,259,600.

- Lane Regional Air Pollution Authority in Springfield, Ore. will establish one wholesale E85 rack in a centralized location and install a minimum of 15 E85 retail refueling stations in the Pacific Northwest along the I-5 corridor. Team members include the Oregon Department of Energy, Tyree Oil, Sequential Biofuels and Star Oil. Clean Cities partners include Puget Sound and Columbia-Williamette. DOE share: $662,425. Proposed total project cost: $1,487,325.

- Kum & Go L.C. in West Des Moines, Iowa will install E85 refueling infrastructure at 24 of their existing retail stations. General Motors is a team member. DOE share: $1,500,000. Proposed total project cost: $3,500,000.
- Greater Philadelphia Clean Cities Inc. in Philadelphia, Pa. will convert 14 existing refueling infrastructure locations to have E85 dispensing capability. These stations will be located along a 200-mile corridor from State College, Pa. to Philadelphia, Pa. Team members include General Motors, Independence BioFuel Inc. and various retailers including Worley & Obetz and Shipley. DOE share: $280,380. Proposed total project cost: $914,880.
- Paramount Scaffold Inc. of Carson, Calif. will receive cost share funding for the incremental cost of replacing 44 existing diesel-powered, medium-duty flat-bed trucks with 44 liquid-propane-powered trucks in Los Angeles, San Diego and Las Vegas. Team members include CleanFuel USA and Expo Propane Inc. The Clean Cities partner is Southern California. Requested DOE share: $267,410. Proposed total project cost: $631,820.
- Salt Lake City Clean Cities Utah Clean Cities Coalition in Salt Lake City, Utah will create and disseminate a model idle-reduction program that can be easily replicated by school districts across the country to help them reduce petroleum consumption, save on fuel costs, minimize harmful emissions and protect children's health. This project includes the development of an idle-reduction curriculum, training in six partnership school districts in Utah and Nevada and the dissemination of the school bus idling reduction model to schools nationwide. The current idling baseline will be established to determine the effectiveness of the program. Team members include the National Energy Foundation, the Nevada Office of Energy, the Environmental and Energy Study Institute, the National School Board Association, the Cache County School District, the Washington County School District and the Salt Lake School District. DOE share: $100,000. Proposed total project cost: $115,000.
- Association of Central Oklahoma Governments in Oklahoma City, Okla. will conduct idle reduction training and awareness for school districts in central Oklahoma. The project will include the development and demonstration of techniques to reduce fuel use and harmful emissions, demonstration of the benefits of idling policies, publishing and presenting project results including best practices and fuel savings realized, training transportation directors, bus drivers and key communicators and dissemination of results to all Oklahoma school districts and school districts nationwide. Team members include the Oklahoma Department of Environmental Quality and the Choctaw Nicoma Park Public Schools. The Clean Cities partner is Central Oklahoma. Requested DOE share: $50,242. Proposed total project cost: $50,242.

Source: U.S. Department of Energy (DOE).

Ethanol & Biodiesel Standards

API Ethanol Study
Executive Summary Literature Review Impact of Gasoline Blended with Ethanol on the Long-Term Structural Integrity of Liquid Petroleum Storage Systems and Components

API MPMS 19.1
Manual of Petroleum Measurement Standards Chapter 19 - Evaporative Loss Measurement Section 1 - Evaporative Loss from Fixed-Roof Tanks - Third Edition

API PUBL 4261
Alcohols and Ethers a Technical Assessment of Their Application as Fuels and Fuel Components - Third Edition

API PUBL 4534 Volume II
Effects of Fuel RVP and Fuel Blends on Emissions at Non-FTP Temperatures Volume II: Compilation of Test Data and Laboratory Procedures

API PUBL 4625
Service Station Personnel Exposures to Oxygenated Fuel Components - 1994

API RP 1626
Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations

API TR 939-D
Stress Corrosion Cracking of Carbon Steel in Fuel Grade Ethanol: Review and Survey

ASTM D 4806 REV A
Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel

ASTM D 4814 REV B
Standard Specification for Automotive Spark-Ignition Engine Fuel

ASTM D 4815
Standard Test Method for Determination of MTBE, ETBE, TAME, DIPE, tertiary-Amyl Alcohol and C1 to C4 Alcohols in Gasoline by Gas Chromatography

ASTM D 5453
Standard Test Method for Determination of Total Sulfur in Light Hydrocarbons, Spark Ignition Engine Fuel, Diesel Engine Fuel, and Engine Oil by Ultraviolet Fluorescence

ASTM D 5501
Standard Test Method for Determination of Ethanol Content of Denatured Fuel Ethanol by Gas Chromatography

ASTM D 5580
Standard Test Method for Determination of Benzene, Toluene, Ethylbenzene, p/m- Xylene, o-Xylene, C9 and Heavier Aromatics, and Total Aromatics in Finished Gasoline by Gas Chromatography - Supersedes ASTM D 4420

ASTM D 5599
Standard Test Method for Determination of Oxygenates in Gasoline by Gas Chromatography and Oxygen Selective Flame Ionization Detection

ASTM D 5622
Standard Test Methods for Determination of Total Oxygen in Gasoline and Methanol Fuels by Reductive Pyrolysis

ASTM D 5797
Standard Specification for Fuel Methanol (M70-M85) for Automotive Spark-Ignition Engines

ASTM D 5798
Standard Specification for Fuel Ethanol (Ed75-Ed85) for Automotive Spark-Ignition Engines

ASTM E 1690
Standard Test Method for Determination of Ethanol Extractives in Biomass

CGSB CAN/CGSB-3.511
Oxygenated Unleaded Automotive Gasoline Containing Ethanol

CGSB 3.511-93-CAN/CGSB
Essence Automobile Sans Plomb Oxygenee Contenant De L'Ethanol-Modificatif 5: Decembre 1997; Incorpore Le Modificatif 4

CGSB 3.520-2005-CAN/CGSB
Automotive Low-Sulphur Diesel Fuel Containing Low Levels of Biodiesel Esters (B1-B5)

CGSB 3.520-2005-CAN/CGSB
Carburant diesel a faible teneur en soufre, pour vehicules automobiles, contenant de faibles quantites d'esters de biodiesel (B1-B5)

ARMY A-A-59693A
Diesel Fuel, Biodiesel Blend (B20)

ASTM D 6584
Standard Test Method for Determination of Free and Total Glycerine in B-100 Biodiesel Methyl Esters by Gas Chromatography

ASTM D 6751
Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels

ASTM PS 121
Provisional Specification for Biodiesel Fuel (B100) Blend Stock for Distillate Fuels - Superseded by ASTM D 6751

Resources for Petrochemical Professionals

ENERGY & PETROCHEM ENGINEERING STANDARDS NEWS

NRC Approves Final Rule Amending Security Requirements Feb 5, 2007
The U.S. Nuclear Regulatory Commission (NRC) approved a final rule that enhances its security regulations governing the design basis threat (DBT) - the latest in a series of actions addressing security at nuclear power plants.

DOE Awards $10M in GNEP Siting Grants Feb 5, 2007
The U.S. Department of Energy (DOE) announced that over $10M will be awarded to 11 commercial and public consortia to conduct detailed siting studies for integrated spent fuel recycling facilities under the Global Nuclear Energy Partnership (GNEP).

IEEE Begins Chemical, Petroleum Plant Standard on Impact of Natural Disasters on Electrical Systems - IEEE P1716 Feb 5, 2007
The Institute of Electrical and Electronics Engineers Inc. (IEEE) is developing IEEE P1716 - Managing Natural Disaster Impact on Key Electrical Systems and Installations in Petroleum and Chemical Facilities.

Frost: Brazil Utilizes Resources to Produce Bioethanol, Biodiesel Feb 2, 2007
Compared to other regions, Latin America has greater advantages such as soil, weather,

available land and low-labor costs for the production of both bioethanol and biodiesel.

NERC Seeks Experts to Refine Electric Reliability Standards Jan 31, 2007
The North American Electric Reliability Corporation (NERC) - the certified Electric Reliability Organization (ERO) for the U.S. - is soliciting the participation of industry experts in developing the nation's mandatory electric reliability standards.

EU Reports on Goal of More Electricity from Renewable Energy Sources Jan 29, 2007
The European Commission (EC) recently reported on progress made towards the goal the European Union (EU) set in 2001 of having 21% of its generated electricity come from renewable energy sources by 2010.

EC Refines Role of Nuclear Power in Future Energy Mix Jan 29, 2007
The European Commission (EC) recently proposed the establishment of a high-level group of national nuclear regulators to further develop rules and a common understanding in the field of nuclear safety and security.

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